> 6 day rat cerebellum 6 day rat brain Adult rat cerebellum

OGFr • • •

G3PDH 🔴 🗨 🖝

Figure 1

Ian S. Zagon, et al. USSN: 09/431,843 Filed: November 2, 1999

Replacement Sheet

2382 1260 1530 1890 1980 2340 1350 1440 1710 1800 2160 1620 LeuSerGlnGlySerLeuArgThrGlyThrGlnGluValGlyGlnAspProGlyGluAlaValGlnProCysArgGlnProLeuGly AleArgValAleAspLysValArgLysArgArgLysValAspGluGlyThrGlyAspSerAlaAlaValAlaSerGlyGlyAlaGlnThr CCTCAGCCAGGGCAGCCTCAGGACGGGGACCCAGGAAGTGGGCGGTCAGGACCCTGGGGAGGCAGTGCAGCCCTGCGCCAACCCCTGGG **AGCCAGGGTGGCCGACAAGGTGAAGCGGAGGAAGGTGGATGAGGTTACTGGGGACAGTGCTGCGGTGGCCAGTGGTGGTGGTGCTGCCCAGAC** CTTGGCCCTTGCCGGGTCCCCTGCCCCATCGGGGCACCCCAAGGCTGGACACAGTGAGAACGGGGTTGAGGAGGACACACAGAAGGTCGAAC LeuAlaLeuAlaGlySerProAlaProSerGlyHisProLysAlaGlyHisSerGluAsnGlyValGluGluAspThrGluGlyArgThr SerGluThrProGlyProSerProAlaGlyProThrArgAspGluProAlaGluSerProSerGluThrProGlyProArgProAlaGly ProAlaGlyAspGluProAlaGluSerProSerGluThrProGlyProArgProAlaGlyProAlaGlyAspGluProAlaLysIlePro SerGluThrProGlyProSerProAlaGlyProThrArgAspGluProAlaGluSerProSerGluThrProGlyProArgProAlaGly ProAlaGlyAspGluProAlaGluSerProSerGluThrProGlyProArgProAlaGlyProAlaGlyAspGluProAlaGluSerPro SerGluThrProGlyProSerProAlaGlyProThrArgAspGluProAlaLysAlaGlyGluAlaAlaGluLeuGlnAspAlaGluVal GCAGGACCTGCAGGGGACGAGCCAGCCAAGATCCC **GGGCCCAPAGNAGTACCCCTGGGAGCCCATCGGAGCCCCAGGCCCCAGCCCAAGCAGGACCTGCAGGGACGAGCAAGCCAAGCCAAGACCCCA** LeuSerArgArgGluGlnProProThrGlyProGlyProGlnSerAlaSerGluValGluLysIleAlaLeuAsnLeuGluGlyCysAl GlyProLysGluGlyThrProGlySerProSerGluThrProGlyProSerProAlaGlyProAlaGlyAspGluProAlaLysThrPro CAGAGTTGCAGGACGCAGAGGT <u>leccennescergenann</u>scercerescersesererererececenceasecreres Figure 8B CCCCCTGTCTTTGTAATTGACCCTTCTGGAGTGGGGGGCG GluSerSerAlaLysSerGlyLysPro 389 419 449 479 509 539 629 689 569 599 629 $\mathbf{\omega}$

Ian S. Zagon, et al. USSN: 09/431,843 Filed: November 2, 1999

Replacement Sheet

2382 1260 1350 1440 1800 1530 1620 1710 1890 2250 2340 1980 2070 2160 LeuserGinGlySerLeuArgThrGlyThrGlnGluValGlyGlyGlnAspProGlyGluAlaValGlnProCysArgGlnProLeuGly AlaArgValAlaAspLysValArgLysArgArgLysValAspGluGlyThrGlyAspSerAlaAlaValAlaSerGlyGlyAlaGlnThr LeuAlaLeuAlaGlySerProAlaProSerGlyHisProLysAlaGlyHisSerGluAsnGlyValGluGluAspThrGluGlyArgThr ProAlaGlyAspGluProAlaGluSerProSerGluThrProGlyProArgProAlaGlyProAlaGlyAspGluProAlaLysIlePro **AGCCAGGGTGGCCGACAAGGTGAGGGAAGCGGAGGAAGGTGGATGAGGGTACTGGGGACAGTGCTGCGGTGGCCAGTGGTGGTGGTGCTGCCCAGAC** CTTGGCCCTTGCCGGGTCCCCTGCCCCATCGGGGCACCCCAAGGCTGGACACAGAACGGGGGTTGAGGAGGACACAGAAGGTCGAAC SerGluThrProGlyProSerProAlaGlyProThrArgAspGluProAlaGluSerProSerGluThrProGlyProArgProAlaGly ProAlaGlyAspGluProAlaGluSerProSerGluThrProGlyProArgProAlaGlyProAlaGlyAspGluProAlaGluSerPro SerGluThrProGlyProSerProAlaGlyProThrArgAspGluProAlaGluSerProSerGluThrProGlyProArgProAlaGly SerGluThrProGlyProSerProAlaGlyProThrArgAspGluProAlaLysAlaGlyGluAlaAlaGluLeuGlnAspAlaGluVal LeuSerArgArgGluGlnProProThrGlyProGlyProGlnSerAlaSerGluValGluLysIleAlaLeuAsnLeuGluGlyCysAl GCAGGACCTGCAGGGGACGAGCCAGCCAAGATCCC 3lyProlysGluGlyThrProGlySerProSerGluThrProGlyProSerProAlaGlyProAlaGlyAspGluProAlaLysThrPro <u>SECACENCENTINGECECCENTENCECENTANGECENTINGECTGENCAN</u>CCCTCCTGCCTGCTGTGTGTTCCCCACCCAGCTCTCCCCTG scaetcticteccaactcteccaaccttaaccaaaccacacceccetccccaccurttectc etceerercccreecccrecccreecccresctacargeatergesceresces **ACCTICCAGGGGACGAGCCGAGAGCCCATCGGAGACCCCCAGGCCCCCCGCCGGCAGGA** SCCCCTGTCTTTGTAATTGACCCTTCTGGAGTGGGGGGCCG GluSerSerAlaLysSerGlyLysPro 389 419 449 479 509 539 569 599 629 629 689 $\mathbf{\omega}$ lan S. Zagon, et al. USSN: 09/431,843 Filed: November 2, 1999

Replacement Sheet

2382 1260 1350 1440 1530 1620 1710 1800 1890 1980 2070 2160 2250 2340 **AGCCAGGGTGGCCGACAAGGTGAGGAAGCGGAGGAAGGTGGATGAGGGTACTGGGGACAGTGCTGCGGTGGCCAGTGGTGGTGCTGCCCAGAC** AlaArgValAlaAspLysValArgLysArgArgLysValAspGluGlyThrGlyAspSerAlaAlaValAlaSerGlyGlyAlaGlnTh; CTTGGCCCTTGCCGGGTCCCCTGCCCCATCGGGGCACCCCAAGGCTGGACACAGTGAGAACGGGGTTGAGGAGGACACAGAAGGTCGAAC LeuAlaLeuAlaGlySerProAlaProSerGlyHisProLysAlaGlyHisSerGluAsnGlyValGluGluAspThrGluGlyArgThr SerGluThrProGlyProSerProAlaGlyProThrArgAspGluProAlaGluSerProSerGluThrProGlyProArgProAlaGly GCAGGACCTGCAGGGACGAGCCAGCCAAGATCCC ProAlaGlyAspGluProAlaGluSerProSerGluThrProGlyProArgProAlaGlyProAlaGlyAspGluProAlaLysIlePro SerGluThrProGlyProSerProAlaGlyProThrArgAspGluProAlaGluSerProSerGluThrProGlyProArgProAlaGl ProAlaGlyAspGluProAlaGluSerProSerGluThrProGlyProArgProAlaGlyProAlaGlyAspGluProAlaGluSerPro SerGluThrProGlyProSerProAlaGlyProThrArgAspGluProAlaLysAlaGlyGluAlaAlaGluLeuGlnAspAlaGluVal **GGGCCCAAAGAAGGTACCCCTGGGAGCCCATCGGAGACCCCCAGCCCCAGCCAAGGACCTGCAGGGACGAGCAAGCCAAGCCAAGACCCCA** LeuSerArgArgGluGlnProProThrGlyProGlyProGlnSerAlaSerGluValGluLysIleAlaLeuAsnLeuGluGlyCysAl GlyProLysGluGlyThrProGlySerProSerGluThrProGlyProSerProAlaGlyProAlaGlyAspGluProAlaLysThrPro <u>erergerangerererenterecetengerernageretarnagerternan</u>gecotcotagectetagetetetececaectetececae ਫ਼୕ଌ୵୵୵ଌ୴ଵ୕ଌ୕୕ଌ୴୷୵୵୵ଌୢ୴ଵ୕୳୵ଌ୴୷ଵ୵୷ଵ୵ଌଌ୕ୡ୵୳୷୕ଊୡଵ୵୴୕ଋ୵ଊ୕ଊ୕୵ଢ଼୵୵୷ୠ୷ୡ୵ଌ୷ୡ୕୴ୡ୷ୡ୵ଽ୕ଌଽ୷ୡ୷୵୷୵ୡ୷ e<mark>ncegrancecenegeceneges</mark>ggcaggacctacaagggatgagccagccgagagcccatcggagacccaaggccccag Figure 8B CCCCCTGTCTTTGTAATTGACCCTTCTGGAGTGGGGGGCG GluSerSerAlaLysSerGlyLysPro 389 419 449 479 509 569 599 629 629 689 539 ⋖ $\mathbf{\omega}$

Ian S. Zagon, et al. USSN: 09/431,843 Filed: November 2, 1999

Replacement Sheet

8 180 270 360 450 630 720 810 900 540 990 1080 1170 MetAspAspProAspCysAspSerThrTrpGluGluAspGluGluAspAlaGluAspAlaGluAspGluAspCysGluAspGly GluAlaAlaGlyAlaArgAspAlaAspAlaGlyAspGluAspGluGluSerGluGluProArgAlaAlaArgProSerSerPheGlnSer ArgMetThrGlySerArgAsnTrpArgAlaThrArgAspMetCysArgTyrArgHisAsnTyrProAspLeuValGluArgAspCysAsn **GlyAspThrProAsnLeuSerPheTyrArgAsnGluIleArgPheLeuProAsnGlyCysPheIleGluAspIleLeuGlnAsnTrpThr** AspAsnTyrAspLeuLeuGluAspAsnHisSerTyrIleGlnTrpLeuPheProLeuArgGluProGlyValAsnTrpHisAlaLysPro AsnAsnLeuArgIleThrArgIleLeuLysSerProCysGluLeuSerLeuGluHisPheGlnAlaProLeuValArgPhePheLeuGlu GluThrLeuValArgArgGluLeuProGlyValArgGlnSerAlaLeuAspTyrPheMetPheAlaValArgCysArgHisGlnArgArg LeuThrLeuArgGluValGluValPheLysSerSerGlnGluIleGlnBrgLeuValArgAlaTyrGluLeuMetLeuGlyPheTyr GlyIleArgLeuGluAspArgGlyThrGlyThrValGlyArgAlaGlnAsnTyrGlnLysArgPheGlnAsnLeuAsnTrpArgSerHis GCCGAGCATGGACCCCCGACTGCGACTCCACCTGGGAGGAGGACGAGGAGGATGCGGAGGACGCGGAGGACGAGGACTGCGAGGACGG cagaatgacagggtccagaaactggccaaggggacatgtgtaggtatcggcacactatccggatctggtggaacgagctag GGGGACACGCCAAACCTGAGTTTCTACAGAAATGAGATCCGCTTCCTGCCCAACGGCTGTTTCATTGAGGACATTCTTCAGAACTGGAC 3GACAACTATGACCTCCTTGAGGACAATCACTCCTACATCCAGTGGCTGTTTCCTTGCGAGAACCAGGAGTGAACTGGCATGCCAAGCC 3GAGACGCTGGTGCGGGGGGGGTGCGGGGGTGCGGCAGAGTGCCCTGGACTACTTCATGTTCGCCGTGCGCTGCCGACACCAGCGCCG CCAGCTGGTGCACTTCGCCTGGGAGCACTTCCGGCCCCGCTGCAAGTTCGTCTGGGGGCCCCCAAGACAAGCTGCGGAGGTTCAAGCCCAG GlnLeuValHisPheAlaTrpGluHisPheArgProArgCysLysPheValTrpGlyProGlnAspLysLeuArgArgPheLysProSer SerLeuProHisProLeuGluGlySerArgLysValGluGluGluGlySerProGlyAspProAspHisGluAlaSerThrGlnGlyArg ThrCysGluProGluHisSerLysGlyGlyGlyArgValAspGluGlyProGlnProArgSerValGluProGlnAspAlaGlyProLeu GluArgSerGinGlyAspGluAlaGlyGlyHisGlyGluAspArgProGluProLeuSerProLysGluSerLysLysArgLysLeuGlu CCTCACGCTCAGGGAGGTCGAGGTGTTTAAAAGCTCCCAGGAGATCCAGGAGCGGCTTGTCCGGGCCTACGAGCTCATGCTGGGCTTCTA CGGGATCCGGCTGGAGGACCGAGGCACGGGCACGGTGGGCCGAGCACAACTACCAGAAGGCGCTTCCAGAACCTGAACTGGCGCAGCCA caacaacctccgcatcacacgcatcctcaagtcgccgtgtgagctgagcctcgagcacttccaggcgcccactggtccgcttcttcctgga SACCTGTGaGCCAGAGCATAGCAAGGGTGGGGGAGGGTGGACGAGGGGCCCCAGCCACGGAGCGTGGAGCCCCAGGATGCGGGACCCC 29 59 119 149 179 239 89 209 269 299 329 359

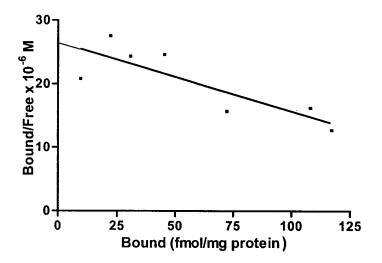


Figure 7B

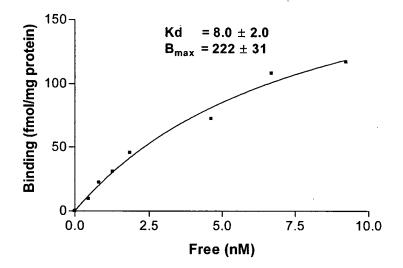


Figure 7A

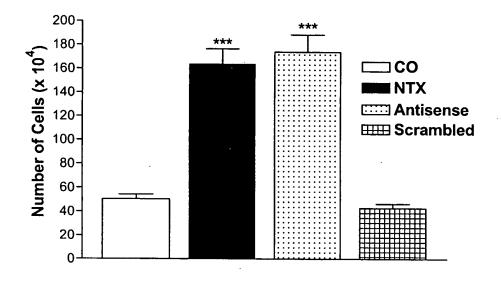


Figure 6

Figure 5A

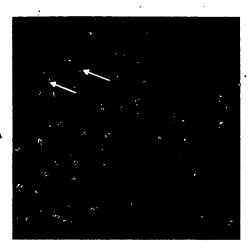


Figure 5B

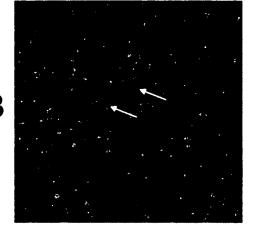
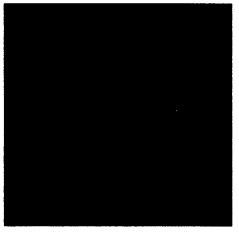


Figure 5C



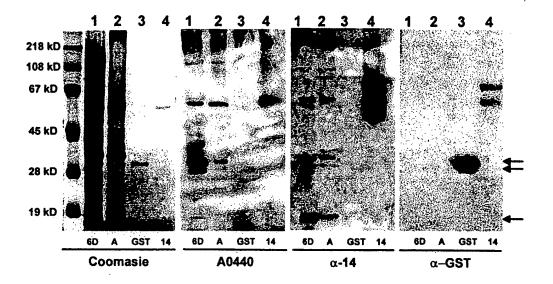


Figure Figure Figure 4A 4B 4C 4D

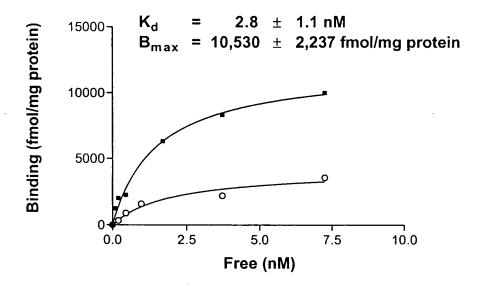


Figure 3

Ian S. Zagon, et al. USSN: 09/431,843 Filed: November 2, 1999

Replacement Sheet

 ${ t GluGlyAsnArgGlnGluGlnValProGlyGluAlaAspProGlnGlyValSerGluValGluLysIleAlaLeuAsnLeuGluGluCys}$ ValGluGluGlyAlaGluGlyAspGlyValValSerAsnThrGlnMetGlnAlaSerAlaLeuProProThrProSerGluCysProGlu 460 490 520 550 GluAspProAspSerAspThrMetGlyThrSerValAspGluSerGluGluLeuAlaArgIleGluAlaSerAlaGluProProLysPro 580 ω ${\tt AlaLeuSerProIleSerGluGluProArgGluAlaGluProProCysProValAlaArgValAlaAsnGluValArgLysArgArgLys}$ AlaGInLysAspGlyAsnGlyProGluAspSerAsnSerGlnVal<u>GlyAlaGluAspSerLysSerGlnVal</u>GlyProGluAspProAsn $\texttt{GlyProGluAspProAsnSerGlnVal} \\ \overline{\textbf{GlyProGluAspProAsnSerGlnVal}} \\ \textbf{ValeghyProGluGlnAlaAlaAlaSerLysSerProVal} \\ \textbf{GlyProGluAspProAsnSerGlnVal} \\ \textbf{GlyProGluAspP$ -GCCCTTAGCCCTATCAGCCAGGAGGCCCAGGGAGGCTGAACCGCCCTGTCCTGTGGCCAGGGTGGCTAATGAGGTAAGAAAGCGGAGGAAG -GCCCAAAAGGATGGGAATGGGCCAGAGGACTCAAACAGCCAGGTTGGGGCAGAGTTTCCAAAAGCCAGGTGGGGCCGGAGGATCCAAAC SerGlnValGlyLeuGluAspProAsnSerGlnValGlyProGluAspProAsnSerGlnValGlyProGluAspProAsnSerGlnVal -GGGCCAGAGGACCCAAACAGCCAGGTCGGGCCAGAGGACCCCAAACAGCCAGGTGGTGGGGGCCAGAGCAAGCTGCCTCTAAGAGCCGTGTG -AGCCAGGTGGGGCTGGAGGACCCAAACAGCCAGGTCGGGCCAGAGGACCCAAAAAGGGCCAGGTCGGGCCAGAGGACCAAACAGGTC -TAGAGGTGCATCTCAGTCCTACTCAGCCCACTGCAGGGGGTTTCTGAGTCCAGAGCTCTGCCGTAGGCTCTTCTTGGTGCTCCCACACAGTGC -GAGGACCCTGACTCTGACACTATGGGAACCTCAGTGGATGAGTCAGGTGAGGAGTTGGCAAGGATTGAGGCTTCTGCTGAACCCCCAAAGCCT 1201 1291 1381 1651 1831 2011 1561 1921 1471 1741

Figure 2B

 $\mathbf{\omega}$

-GAGGGGAACAGGCAGGAGCAGGICCCCAGGGGAGGCAGAICCCCCAGGGIGICIICIIGAGGIAGAAAAAIIGCCCIIIAACCIIIGAGGAGIGI

1111

4

100

70

GluAspIleLeuGlnAsnTrpLysAspAsnTyrAspLeuLeuGluGluAsnHisSerTyrIleGlnTrpLeuPheProLeuArgGluPro 130

-GAGGACATTCTTCAGAACTGGAAAGACAACTATGACCTCCTGGAAGAGAATCACTCCTACATCCAGTGGCTGTTTCCTCTGCGGAACCA

AspLeuThrAspGlnAspCysAsnGlyAspMetCysAsnLeuSerPheTyrLysAsnGluIleCysPheGlnProAsnGlyAlaLeuIle

-GATTTGACAGATCAAGACTGCAATGGTGACATGTGCAACCTGAGCTTCTACAAAATGAGATCTGCTTCCAGCCAAATGGGGGCTCTCATC

AlaArgProSerLeuPheGlnSerArgMetThrGlyTyrArgAsnTrpArgAlaMetGlnAspMetGlnArgTyrArgHisAsnTyrPro

-GCACGGCCAAGCCTGTTCCAGTCCAGGATGACAGGGTACCGAAACTGGCGTGCTATGCAGGACATGCAAAGATACCGGCACAAACTACCCG

121

211

301

391

GlyValAsnTrpHisAlaLysProLeuThrLeuLysGluValGluAlaPheLysSerSerLysGluValArgGluArgLeuValArgAla 160

-GGAGTGAACTGGCACGCCAAGCCCCTCACCCTGAAGGAGGTTGAGGCATTTAAAAGCTCCAAGGAAGTCAGAGGACTCTTGTCCGGGGCC

TyrGluLeuMetLeuGlyPheTyrGlyPheHisLeuGluAspArgGlyThrGlyAlaValCysArgAlaGlnAsnPheGlnProArgPhe 190

571

661

481

-TATGAGCTCATGCTGGGCTTCTATGGGTTCCACCTTGAGGACCGGGGCACGGGTGCTGTATGCCGTGCAGAACTTCCAGCGGCGCGCTTC

841

751

1021

4

931

310

340

-TGGGCTCAGCCACGCCCCAGGGTGCCCCCCAGTGGGACTAGTTCTTCATTCTGGCAGCTGCACACATCTGTCAGTGAGGGAATGTCAGGTC -TCTCACTCTCCTCTCTCACTATCCTTTCCGCAGAAAGCGGGTCCTCCTGCTTGTCGAGTATGGACGACCGGGACTGCGATTCCACTGG

40 -GAGGAGGAGAGCGAGGAGGATGGCGAGGATGGCCAGGCGGATGATACGACCGATGATGAGGACACGGGCGACGATGACGGCGACGAGGAG 31

GluGluGluSerGluGluAspGlyGluAspGlyGlnAlaAspAspThrThrAspGluAspThrGlyAspAspAspAspAlaGluGlu

10 MetAspAspProAspCysAspSerThrTrp

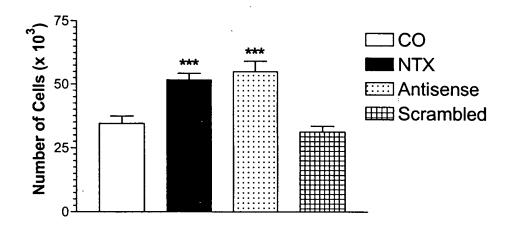
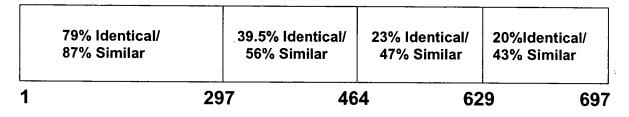


Figure 10



Amino Acid Number

Figure 11

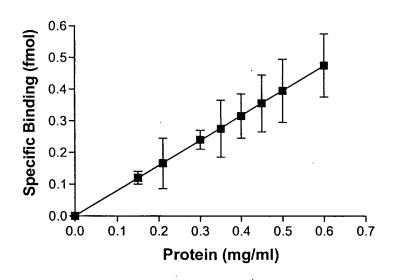


Figure 12

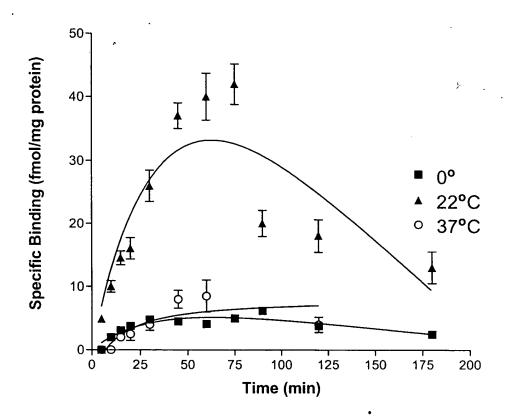


Figure 13

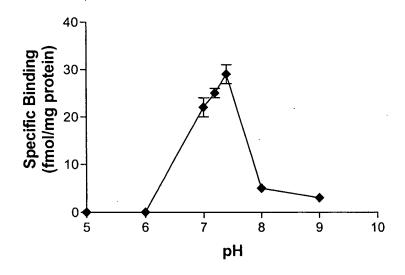


Figure 14

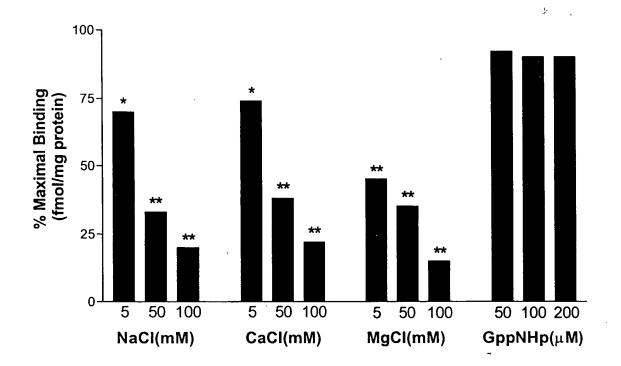


Figure 15

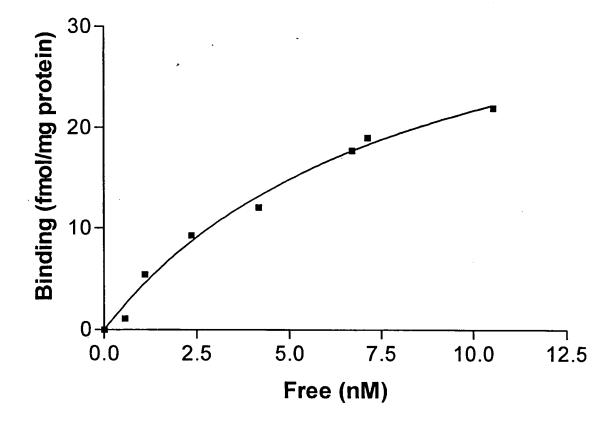


Figure 16A

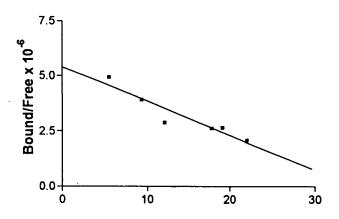
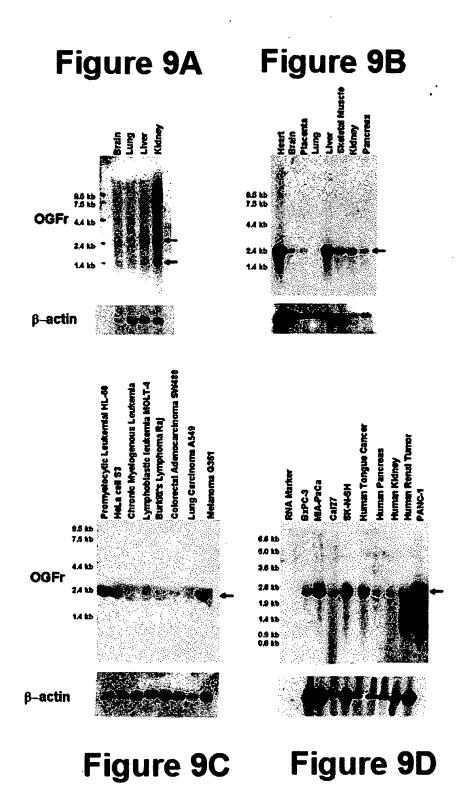


Figure 16B



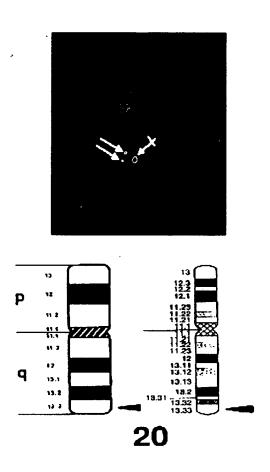


Figure 8F

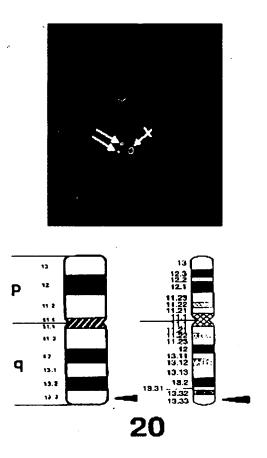


Figure 8F

Ian S. Zagon, et al. USSN: 09/431,843 Filed: November 2, 1999 Replacement Sheet

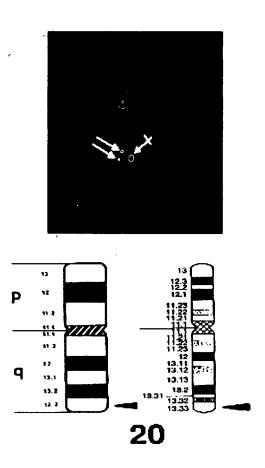


Figure 8F



S

Figure 8E

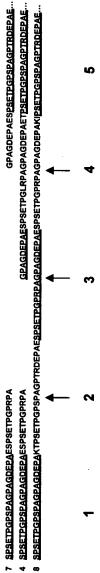


Figure 8E

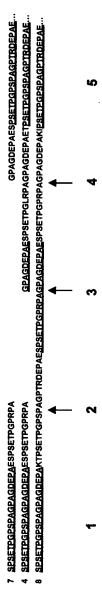


Figure 8E

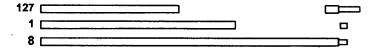


Figure 8D

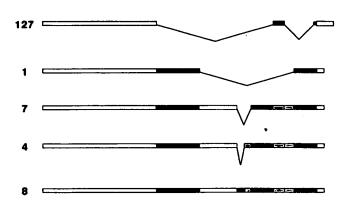


Figure 8C

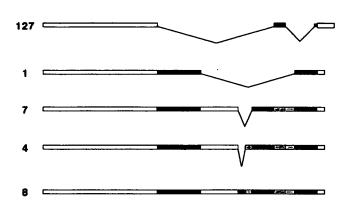


Figure 8C

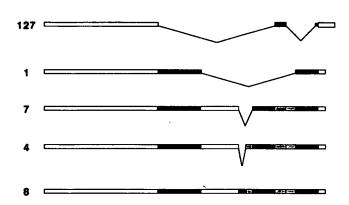


Figure 8C